

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An X-ray diagnostic apparatus comprising:
a memory which stores a plurality of images[[]], wherein the plurality of images are images acquired by rotation around an object to be examined;
a designating section which designates a region of interest on at least one of the plurality of images on the basis of an input from an operator;
a position estimating section which estimates corresponding areas, which correspond to the region of interest, on the remaining images of the plurality of images;
a transformation section which transforms the plurality of images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and
a display section which after transformation by said transformation section displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display such that an operator is free from moving an eyepoint.
2. (Cancelled).
3. (Original) The apparatus according to claim 1, wherein the corresponding region on each of the remaining images is determined on the basis of at least one of the designated region of interest, an angle of an imaging system corresponding to each image, a distance between an X-ray source and an X-ray detector image-receiving surface, and a detector size.

4. (Previously Presented) The apparatus according to claim 1, wherein when areas of interest are designated on at least two images, said position estimating section obtains a 3D position of a diagnosis target on the basis of straight lines connecting focal positions of an X-ray source in sensing the respective images on which the areas of interest are designated and the areas of interest, and projects the 3D position onto the remaining images of the plurality of images, thereby estimating the respective corresponding areas.

5. (Previously Presented) The apparatus according to claim 1, wherein when areas of interest are designated on at least two images, said position estimating section calculates a locus of the areas of interest in the image by using a function on the basis of the respective designated areas of interest, and obtains the corresponding areas on the remaining images on the basis of the locus.

6. (Previously Presented) The apparatus according to claim 5, wherein said position estimating section includes an interface which switches the function by manual operation.

7. (Original) The apparatus according to claim 5, wherein said position estimating section selects a function to be used in accordance with the number of areas of interest designated by an operator.

8. (Previously Presented) The apparatus according to claim 1, wherein said position estimation section performs correlation value computation associated with pixel values in the region of interest between at least two adjacent images of the plurality of images, and obtains the corresponding areas on the respective remaining images on the basis of the correlation values.

9. (Previously Presented) The apparatus according to claim 1, further comprising display range adjusting section which adjusts a display range of an image, after the transformation by said transformation section, by using a shutter having a predetermined shape.

10. (Original) The apparatus according to claim 9, wherein the predetermined shape can be set to an arbitrary shape.

11. (Currently Amended) An X-ray diagnostic apparatus comprising:
a memory which stores a plurality of 2D images which constitute a 3D image of a predetermined diagnosis target;
a designating section which allows an operator to designate a region of interest on the 3D image;
a position estimating section which estimates corresponding areas, which correspond to the region of interest designated on the 3D image, on the plurality of 2D images;
a transformation section which transforms the plurality of 2D images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and
a display section which after transformation by said transformation section displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display such that an operator is free from moving an eyepoint.

12. (Original) The apparatus according to claim 11, wherein the plurality of 2D images are images acquired by rotation around an object to be examined.

13. (Original) The apparatus according to claim 11, wherein each of the corresponding areas on the plurality of 2D images is determined on the basis of at least one of the designated region of interest, an angle of an imaging system corresponding to each image, a distance between an X-ray source and an X-ray detector image-receiving surface, and a detector size.

14. (Previously Presented) The apparatus according to claim 11, further comprising display range adjusting section which adjusts a display range of a 2D image, after the transformation by said transformation section, by using a shutter having a predetermined shape.

15. (Previously Presented) The apparatus according to claim 14, wherein the predetermined shape can be set to an arbitrary shape.

16. (Currently Amended) An image processor comprising:
a memory which stores a plurality of images;
a designating section which allows an operator to designate a region of interest on at least one of the plurality of images;

a position estimating section which estimates corresponding areas on the remaining images of the plurality of images on the basis of a position of the designated region of interest;

a transformation section which transforms the plurality of images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and

a display section which after transformation by said transformation section displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display such that an operator is free from moving an eyepoint.

17. (Original) The processor according to claim 16, wherein the plurality of images are images acquired by rotation around an object to be examined.

18. (Previously Presented) The processor according to claim 16, wherein said position estimating section calculates a locus of the region of interest on the image by using a function on the basis of the designated region of interest, and obtains the corresponding areas on the remaining image on the basis of the locus.

19. (Original) The processor according to claim 18, wherein said position estimating section includes an interface which switches the function by manual operation.

20. (Original) The processor according to claim 18, wherein said position estimating section selects a function to be used in accordance with the number of areas of interest designated by the operator.

21. (Previously Presented) The processor according to claim 16, wherein said position estimation section performs correlation value computation associated with pixel values in the region of interest between at least two adjacent images of the plurality of X-ray diagnostic images, and obtains the corresponding areas on the respective remaining images on the basis of the correlation values.

22. (Previously Presented) The processor according to claim 16, further comprising a display range adjusting filter which adjusts a display range of an image, after the transformation by said transformation section, by using a shutter having a predetermined shape.

23. (Original) The processor according to claim 22, wherein the predetermined shape can be set to an arbitrary shape.

24. (Currently Amended) An image processor comprising:
a memory which stores a plurality of 2D images which constitute a 3D image of a predetermined diagnosis target;
a designating section which allows an operator to designate a region of interest on the 3D image;
a position estimating section which estimates corresponding areas, which correspond to the region of interest designated on the 3D image, on the plurality of 2D images;
a transformation section which transforms the plurality of 2D images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and
a display section which after transformation by said transformation section displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display such that an operator is free from moving an eyepoint.

25. (Original) The processor according to claim 24, wherein the plurality of 2D images are images acquired by rotation around an object to be examined.

26. (Original) The processor according to claim 24, wherein each of the corresponding areas on the plurality of 2D images is determined on the basis of at least one of the designated region of interest, an angle of an imaging system corresponding to each image, a distance between an X-ray source and an X-ray detector image-receiving surface, and a detector size.

27. (Previously Presented) The processor according to claim 24, further comprising display range adjusting means for adjusting a display range of a 2D image, after the transformation by said transformation section, by using a shutter having a predetermined shape.

28. (Original) The processor according to claim 27, wherein the predetermined shape can be set to an arbitrary shape.

29. (Currently Amended) An X-ray diagnostic apparatus comprising:
a memory which stores a plurality of images;
a designating section which designates a region of interest on a first image of the plurality of images on the basis of an input from an operator;
a position estimating section which estimates a corresponding area, which corresponds to the region of interest, on a second image of the plurality of images;
a transformation section which transforms at least one of the first and second images so as to locate the region of interest and the respective corresponding area at substantially a same display position; and
a display section which after transformation by said transformation section displays the first image and the second image with the region of interest of the first image and the

corresponding area of the second image at a preset position on the display such that an operator is free from moving an eyepoint.

30. (Previously Presented) The X-ray diagnostic apparatus of Claims 29, wherein:
said position estimating section estimates corresponding areas, corresponding to the region of interest, on plural of the plurality of images stored in the memory;
said transformation section transforms at least one of the first image and the plural images for which corresponding areas are estimated so as to locate the region of interests and the respective corresponding areas at substantially the same display position; and
said display section after transformation by said transformation section displays the first image and the plural images with the region of interest of the first image and the corresponding areas of the plural images at the substantially same display position.

31. (Currently Amended) An X-ray diagnostic apparatus comprising:
a memory which stores a plurality of images;
a designating section which designates a region of interest on at least one of the plurality of images on the basis of an input from an operator;
a position estimating section which estimates corresponding areas, which correspond to the region of interest, on the remaining images of the plurality of images;
a transformation section which transforms the plurality of images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and
a display section which displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display so ~~[[as]]~~ that an

operator is free to observe the region of interest and the respective corresponding areas without the operator having to move an ~~moving-observers~~ eyepoint.

32. (Currently Amended) An X-ray diagnostic apparatus comprising:

a memory which stores a plurality of 2D images which constitutes a 3D image of the predetermined diagnosis target;

a designating section which allows an operator to designate a region of interest on the 3D image;

a position estimating section which estimates corresponding areas, which correspond to the region of interest designated on the 3D image, on the plurality of 2D images;

a transformation section which transforms the plurality of 2D images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and

a display section which displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display so ~~[[as]]~~ that an operator is free to observe the region of interest and the respective corresponding areas without the operator having to move an ~~moving-observers~~ eyepoint.

33. (Currently Amended) An image processor comprising:

a memory which stores a plurality of images;

a designating section which allows an operator to designate a region of interest on at least one of the plurality of images;

a position estimating section which estimates corresponding areas on the remaining images of the plurality of images on the basis of a position of the designated region of interest:

a transformation section which transforms the plurality of images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and

a display section which displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display so ~~[[as]]~~ that an operator is free to observe the region of interest and the respective corresponding areas without the operator having to move an ~~moving-observers~~ eyepoint.

34. (Currently Amended) An image processor comprising:

a memory which stores a plurality of 2D images which constitutes a 3D image of the predetermined diagnosis target;

a designating section which allows an operator to designate a region of interest on the 3D image;

a position estimating section which estimates corresponding areas, which correspond to the region of interest designated on the 3D image, on the plurality of 2D images;

a transformation section which transforms the plurality of 2D images so as to locate the region of interest and the respective corresponding areas at substantially a same display position; and

a display section which displays the transformed images with the region of interest and the respective corresponding areas at a preset position on the display so ~~[[as]]~~ that an operator is free to observe the region of interest and the respective corresponding areas without the operator having to move an ~~moving-observers~~ eyepoint.

35. (Currently Amended) An X-ray diagnostic apparatus comprising:

a memory which stores a plurality of images;

a designating section which designates a region of interest on a first image of the plurality of images on the basis of an input from an operator;

a position estimating section which estimates corresponding area, which corresponds to the region of interest, on a second image of the plurality of images;

a transformation section which transforms at least one of the first and second images so as to locate the region of interest and the respective corresponding area at substantially a same display position; and

a display section which displays the transformed images with the region of interest and the respective corresponding area at a preset position on the display so ~~that an~~ operator is free to observe the region of interest and the respective corresponding area without the operator having to move an ~~moving-observers~~ eyepoint.

36. (New) The X-ray diagnostic apparatus of claim 1, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

37. (New) The X-ray diagnostic apparatus of claim 11, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

38. (New) The image processor of claim 16, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

39. (New) The image processor of claim 24, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

40. (New) The X-ray diagnostic apparatus of claim 29, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

41. (New) The X-ray diagnostic apparatus of claim 31, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

42. (New) The image processor of claim 32, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

43. (New) The image processor of claim 33, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

44. (New) The image processor of claim 34, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.

45. (New) The X-ray diagnostic apparatus of claim 35, further comprising:

wherein the transformation section calculates an amount of movement in each image based on an angle of rotation of an image pickup system for acquiring the plurality of images, and transforms the plurality of images based on the calculated amount of movement in each image.